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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/540,771	06/24/2005	Toshiro Kinoshita	970.1012	7143
21171	7590	05/12/2010	EXAMINER	
STAAS & HALSEY LLP			HIGGINS, GERARD T	
SUITE 700			ART UNIT	
1201 NEW YORK AVENUE, N.W.			PAPER NUMBER	
WASHINGTON, DC 20005			1785	
			MAIL DATE	DELIVERY MODE
			05/12/2010	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/540,771

**Applicant(s)**

KINOSHITA ET AL.

**Examiner**

GERARD T. HIGGINS

**Art Unit**

1785

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 19 April 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-4 and 14-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 14-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SI/08)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Interval Patent Application
- 6) ☐ Other: \_\_\_\_\_
- Paper No(s)/Mail Date \_\_\_\_\_

**DETAILED ACTION**

***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 04/19/2010 has been entered.

***Response to Amendment***

2. The amendment filed 04/19/2010 has been entered. Currently claims 1-4 and 14-18 are pending, claims 5-13 are cancelled, and claims 16-18 are new.

***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 1, 3, and 17 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to

one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

With regard to claim 1, the Examiner does not find support in the specification as originally filed or the places mentioned by applicants' in their Remarks for a recording layer on both sides of the substrate **and** a printing layer as an outer layer/surface of the optical disc. Applicants' specification has not set forth that two recording layers may be used with a printing layer; rather they treat the embodiment having two recording layers and the embodiment having a recording layer with a printing layer as alternative arrangements. This can be seen from at least the language used to describe the printing layer in the Abstract, i.e. "a printing layer **(15)** provided on the other side of substrate **(11)**." There would not be two recording layers provided on either side of the substrate and then a printing layer provided on "the other side" of the substrate because there would not be an "other side." The fact that these embodiments are also alternatives can be seen in the description at page 3, lines 5-12, wherein the embodiments are treated differently and separately, and also at page 6, lines 19-25 where the embodiment of claim 1 is specifically not disclosed.

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1-4 and 14-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With regard to claim 1, the limitation that a recording layer is provided "on both sides" of the substrate renders the claim indefinite because a substrate does not necessarily only have two sides, and therefore it is unclear where the sides are located.

Claim 1 recites the limitation "the recording layer" in the fourth, fifth, and ninth lines of the claim. There is insufficient antecedent basis for this limitation in the claim. The claim recites "a recording layer provided on both sides of the substrate;" hence, the recitation of "the recording layer" on the fourth, fifth, and ninth lines of the claim renders the claim indefinite because it is unclear if there is one or two recording layers. Given the confusion with regard to this limitation (see section 4 above and the preceding paragraph), the Examiner will interpret this claim as having a single recording layer on one side of a substrate and the printing layer on an opposite side of said substrate.

With regard to claim 2, the introduction of the limitation "a printing base material" in the tenth and eleventh lines of the claim renders the claim indefinite because it is unclear if this is the same layer as the "base material layer" of the printing layer introduced on the ninth line of the claim. The Examiner will interpret the claim as the "printing base material" and the "base material layer" being the same component.

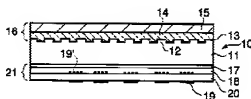
With regard to claim 14, the introduction of the limitation "a printing base material" in the eleventh and twelfth lines of the claim renders the claim indefinite because it is unclear if this is the same layer as the "base material layer" of the printing layer introduced on the tenth line of the claim. The Examiner will interpret the claim as the "printing base material" and the "base material layer" being the same component.

**Claim Rejections - 35 USC § 103**

7. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
8. Claims 1 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Taira (JP 2002-367234), machine translation included, in view of Otomo (JP 2000-011448) and Ota (JP 2000-030302).

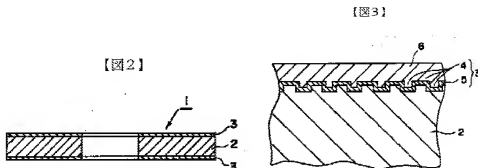
With regard to claim 1, Taira teaches the optical disk of Figure 1.

【 図 1 】



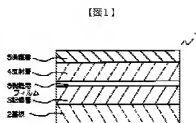
The optical disk is comprised of a substrate **11**, which reads on applicants' substrate, a pit sequence and reflection film **12** and **13**, which together read on applicants' recording layer, and a label **19'** printed on the inside of a resin layer **20**, which together read on applicants' printing layer [0021], [0022], and [0028]. The resin layer **20** reads on applicants' printing base material and the label **19'** reads on applicants' printing ink. The surface cover **15** reads on applicants' base material for the recording layer; however, Taira does not disclose that the substrate is made of a biodegradable or a polyolefin resin, that the base material layer of the recording layer is a non-hydrophilic film, an adhesive layer between the substrate and the recording layer, and a release layer provided between the substrate and the recording layer.

Otomo teaches the invention of Figures 2 and 3.



Otomo teaches that polycarbonate in the substrates of optical recording media are harmful for the environment [0002]. He plans to rectify this by making the substrate of the optical recording medium out of biodegradable resins [0005] and [0006]. He teaches that a biodegradable resin include polypropylene [0009] or BIONOLLE [0010], which are also proposed in applicants' specification. The optical disc **1** has a substrate **2** of biodegradable resin and a recording layer **3** formed on a side of the substrate [0018]. The recording layer **3** has a base material layer **6**. Otomo teach that the base material layer **6** is formed using the same plastic material as the substrate **2**. Applicants state in their specification at page 9, line 20 to page 10, line 4 that the non-hydrophilic film is preferentially composed of the same types of resin that is in the biodegradable substrate layer; therefore, the base material layer of Otomo is deemed to be made from an intrinsically non-hydrophilic (i.e. hydrophobic) material.

Ota teaches the device of Figure 1.



The device has a release layer 6 disposed in between the recording layer 3 and a protective layer 5, which reads on the substrate of Otomo and applicants [0014].

Since Taira, Otomo, and Ota are drawn to optical recording media; it would have been obvious to one having ordinary skill in the art at the time the invention was made to have made the substrate layer and the base material layer of the recording layer of Taira from the materials taught in Otomo; furthermore, it would have been obvious to have incorporates the release layer of Ota in between the substrate and recording layer of the medium of Taira. The results of this combination would have been completely predictable to one having ordinary skill in the art of optical recording media; further, each of the components would perform the same in combination as they did separately. The rationale for using the materials taught in Otomo is that they are better for the environment upon disposal of an optical disc [0001]. A further motivation for combining these references can be found in Ota at [0021], which discloses that the release layer provides an extra level of security, wherein the information of the optical disc can be completely destroyed at the time of disposal; further, one of ordinary skill would recognize that this would allow for separation and potential recycling of the individual layers of the optical recording medium.



With regard to the addition of an adhesive layer in between the substrate and the recording layer, this would represent a mere duplication of the release layer **6** of Ota that was combined into the device of Otomo. It has been held that "mere duplication of parts has no patentable significance unless a new and unexpected result is produced." Please see MPEP 2144.04 and *In re Harza*, 274 F.2d 669, 124 USPQ 378 (CCPA 1960). Ota describes their release layer as being a double-sided adhesion film [0016]. It would have been obvious to one having ordinary skill in the art at the time the invention was made to duplicate the film **6** for exfoliation, which reads on both applicants' adhesive layer and/or release layer, in order to adjust the amount of adhesive strength between the substrate and the recording layer.

With regard to claim 17, the Examiner notes that the limitations of this claim are drafted in product-by-process language. The label **19'** of Taira is printed beforehand and then stuck onto the disk [0026]. Since the label **19'** is printed, it is intrinsic to the reference that printing ink is used. This reads on the product-by-process limitations of this claim.

9. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Taira (JP 2002-367234), machine translation included, in view of Otomo (JP 2000-011448) and Ota (JP 2000-030302) as applied to claim 1 above, and further in view of Arai et al. (5,020,048).

Taira in view of Otomo and Ota render obvious all of the limitations of applicants' claim 1 in section 8 above; however, they do not specifically disclose a protective layer for protecting the recording layer.

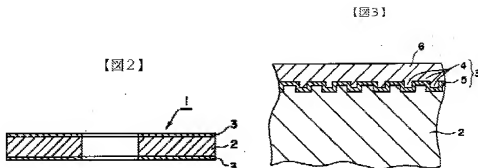
Arai et al. disclose a protective film **6** formed on a light incident surface of said transparent substrate, wherein said transparent substrate of Arai et al. reads on the base material layer of applicants' and also Taira in view of Otomo and Ota (col. 2, lines 35-38).

Since Taira, Otomo, Ota, and Arai et al. are drawn to optical recording media; it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the protective film of Arai et al. with the optical disc of Taira in view of Otomo and Ota. The results of the combination would have been predictable; further, each of the elements would have performed the same in combination as they had separately. A further motivation for combining these references is that this will protect the transparent substrate or base material from scratches; furthermore, the fact that the protective layer is strippable will allow it to be replaced if the protective film becomes damaged.

10. Claims 2, 14, 16, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Taira (JP 2002-367234), machine translation included, in view of Otomo (JP 2000-011448) and Ota (JP 2000-030302).

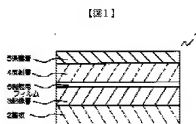
With regard to claims 2 and 14, Taira teaches the optical disk of Figure 1.

Otomo teaches the invention of Figures 2 and 3.



Otomo teaches that polycarbonate in the substrates of optical recording media are harmful for the environment [0002]. He plans to rectify this by making the substrate of the optical recording medium out of biodegradable resins [0005] and [0006]. He teaches that a biodegradable resin include polypropylene [0009] or BIONOLLE [0010], which are also proposed in applicants' specification. The optical disc 1 has a substrate 2 of biodegradable resin and a recording layer 3 formed on a side of the substrate [0018]. The recording layer 3 has a base material layer 6. Otomo teach that the base material layer 6 is formed using the same plastic material as the substrate 2. Applicants state in their specification at page 9, line 20 to page 10, line 4 that the non-hydrophilic film is preferentially composed of the same types of resin that is in the biodegradable substrate layer; therefore, the base material layer of Otomo is deemed to be made from an intrinsically non-hydrophilic (i.e. hydrophobic) material.

Ota teaches the device of Figure 1.



The device has a release layer **6**, which reads on both an adhesive layer and/or a release layer, disposed in between the recording layer **3** and a protective layer **5**, which reads on the substrate of Otomo and applicants [0014].

Since Taira, Otomo, and Ota are drawn to optical recording media; it would have been obvious to one having ordinary skill in the art at the time the invention was made to have made the substrate layer, the base material layer of the recording layer, and the base material layer of the printing layer of Taira from the materials taught in Otomo; furthermore, it would have been obvious to have incorporated the release layer of Ota in between the substrate and recording layer of the medium of Taira. The results of this combination would have been completely predictable to one having ordinary skill in the art of optical recording media; further, each of the components would perform the same in combination as they did separately. The rationale for using the materials taught in Otomo is that they are better for the environment upon disposal of an optical disc [0001]. A further motivation for combining these references can be found in Ota at [0021], which discloses that the release layer provides an extra level of security, wherein the information of the optical disc can be completely destroyed at the time of disposal; further, one of ordinary skill would recognize that this would allow for separation and potential recycling of the individual layers of the optical recording medium.

With specific regard to the addition of a release layer between the substrate and the printing layer, this would represent a mere duplication of either the substrate **2** of Otomo made of polypropylene and/or a mere duplication of the 2<sup>nd</sup> glue line **18** of Taira.

It has been held that "mere duplication of parts has no patentable significance unless a new and unexpected result is produced." Please see MPEP 2144.04 and *In re Harza*, 274 F.2d 669, 124 USPQ 378 (CCPA 1960). Applicants' state in their specification that polypropylene is an appropriate material for both their substrate and their release layers (compare page 8, lines 6-11 to page 16, lines 16-18). It would have been obvious to one having ordinary skill in the art to have merely duplicated the substrate **2** made of polypropylene in order to adjust the overall thickness and the sturdiness of the laminate, which would result in a release layer as claimed. It would have also been obvious to one having ordinary skill in the art at the time the invention was made to duplicate the 2<sup>nd</sup> glue line **18** of Taira, which reads on both applicants' adhesive layer and/or release layer, in order to adjust the amount of adhesive strength between the substrate and the recording layer.

With specific regard to the addition of an adhesive layer with a release layer in between the substrate and the recording layer of claim 14, this would represent a mere duplication of the release layer **6** of Ota that was combined into the device of Otomo. Ota describes their release layer as being a double-sided adhesion film [0016]. It would have been obvious to one having ordinary skill in the art at the time the invention was made to duplicate the film **6** for exfoliation, which reads on both applicants' adhesive layer and/or release layer, in order to adjust the amount of adhesive strength between the substrate and the recording layer.

With regard to claims 16 and 18, the Examiner notes that the limitations of these claims are drafted in product-by-process language. The label **19'** of Taira is printed

beforehand and then stuck onto the disk [0026]. Since the label 19' is printed, it is intrinsic to the reference that printing ink is used. This reads on the product-by-process limitations of these claims.

11. Claims 4 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Taira (JP 2002-367234), machine translation included, in view of Otomo (JP 2000-011448) and Ota (JP 2000-030302) as applied to claims 2 and 14 above, respectively, and further in view of Arai et al. (5,020,048).

Taira in view of Otomo and Ota render obvious all of the limitations of applicants' claims 2 and 14 in section 10 above; however, they do not specifically disclose a protective layer for protecting the recording layer.

Arai et al. disclose a protective film 6 formed on a light incident surface of said transparent substrate, wherein said transparent substrate of Arai et al. reads on the base material layer of applicants' and also Taira in view of Otomo and Ota (col. 2, lines 35-38).

Since Taira, Otomo, Ota, and Arai et al. are drawn to optical recording media; it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the protective film of Arai et al. with the optical disc of Taira in view of Otomo and Ota. The results of the combination would have been predictable; further, each of the elements would have performed the same in combination as they had separately. A further motivation for combining these references is that this will protect the transparent substrate or base material from scratches; furthermore, the fact

that the protective layer is strippable will allow it to be replaced if the protective film becomes damaged.

### ***Response to Arguments***

12. Applicant's arguments with respect to claims 1-4 and 14-18 have been considered but are moot in view of the new ground(s) of rejection.

Applicants' arguments are now drawn to the new limitations that the printing ink is on a side of the printing base material layer that faces towards the substrate and the printing base material forms the outer surface of the optical disc.

The Examiner notes the reference Taira (JP 2002-367234) that has been used in all the present rejections possesses these features.

### ***Conclusion***

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The Examiner has cited US 5,798,161 which has a thermal transfer sheet that is adhered to an optical disc wherein the formed image is not the outer surface of the medium.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to GERARD T. HIGGINS whose telephone number is (571)270-3467. The examiner can normally be reached on M-F 10am-8pm est. (Variable one work-at-home day).



If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Ruthkosky can be reached on 571-272-1291. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Mark Ruthkosky/  
Supervisory Patent Examiner, Art Unit 1785

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